



The **CRUSHED STONE JOURNAL**

In This Issue


■
Crushed Stone for Railroad Ballast

■
**A Public Policy as to Open
Price Plans**

■
**The Effect of the Decision in the
Sugar Institute Case Upon Trade
Association Activities**

■
**National Silicosis Conference
Committee Established**

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BULLETIN No. 1

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BULLETIN No. 2

Low Cost Improvement of Earth Roads with Crushed Stone

BULLETIN No. 3

The Water-Ratio Specification for Concrete and Its Limitations

BULLETIN No. 4

"Retreading" Our Highways

BULLETIN No. 5

Reprint of "Comparative Tests of Crushed Stone and Gravel Concrete in New Jersey"
with Discussion

BULLETIN No. 6

The Bituminous Macadam Pavement

BULLETIN No. 7

Investigations in the Proportioning of Concrete for Highways

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The Crushed Stone Journal

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J. R. BOYD, Editor

NATIONAL CRUSHED STONE ASSOCIATION



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Contents

	Page
Crushed Stone for Railroad Ballast —A. T. Goldbeck - - -	3
A Public Policy as to Open Price Plans —Charles J. Brand - - -	10
The Effect of the Decision in the Sugar Institute Case Upon Trade Association Activities —William J. Donovan - - -	16
National Silicosis Conference Committee is Established - - -	23



CRUSHED STONE BALLAST—
The Highest Standard for Railroad Construction

THE CRUSHED STONE JOURNAL

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Crushed Stone for Railroad Ballast

By A. T. GOLDBECK

Engineering Director
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♦ As railroad business continues to improve, ballasting programs will receive greater attention. Thus the present article is timely for it discusses specifications and merits of stone ballast.

CRUSHED stone of good quality is quite universally regarded as having properties which make it especially desirable for ballast purposes and in normal periods of activity the production and sale of railroad ballast forms an important part of the business of crushed stone producers. All stone is not equally suitable and, consequently, specification limits must be set which will insure the use of material which has adequate characteristics. It is the purpose of this article to discuss crushed stone for railroad ballast and to give the most recent thought on stone ballast specifications.

Purposes of Ballast

Ballast used in the construction of railroad tracks serves the following purposes:

1. It distributes the load more or less uniformly over the roadbed.
2. It forms a support for the ties and resists their movement under traffic.
3. It provides a means of drainage for the ties.
4. It provides a means of resurfacing the track without disturbing the roadbed.
5. It forms an elastic foundation which reduces the destructive effect of unbalanced parts and assists in reducing the shocks of traffic on the track.

Service Agencies Which Destroy Ballast

Ballast suffers more or less disintegration and pulverization due to several causes. The shock and high pressure exerted by passing traffic tend to grind that portion of the ballast immediately under the ties and ballast should have sufficient toughness and hardness to resist this grinding action. Tamping tools, whether of the hand or mechanical variety, exert an impact action on the ballast and tend to fracture it into smaller fragments and the rock must be sufficiently tough to resist this action of the tamping tool.

Ballast is continuously exposed to the weather and, consequently, must have weather resistant properties which will prevent it from disintegrating under the action of frost. The disintegration and pulverization of ballast is particularly objectionable because the fine material thus formed tends to clog the voids and drainage is thereby retarded. This clogged condition of the ballast contributes to the so-called mud-pumping of the ties, for the fine material ground up under the ties becomes churned into mud during times of wet weather. When ballast is thus clogged, the waving motion assumed by the rails under traffic produces increased wear and loosening of the rail fastenings. Likewise, when the water cannot escape more rapid decay of the ties is bound to ensue,

It is considered by some engineers that certain types of rock powders formed as a result of the grinding of the ballast are more serious in their effects than others because they have high cementing properties. It is undoubtedly true that rock powders do have the property of cementing together when they are ground with water and are later dried to some extent. It is also true, however, that certain of the tough and durable rocks have practically as high cementing value as the softer materials and this point is highly significant in considering the importance of a cementing value test for judging of the quality of railroad ballast. Highly resistant stone produces very little rock powder and because of the meager quantity formed under the ties, it will have practically no cementing effect on the ballast, notwithstanding the high cementing value which may be obtained on this powder in laboratory tests. On the other hand, if a rock has low resistance to pulverization, it may produce lack of drainage and mud-pumping in spite of a relatively lower cementing value than in the case of the above assumed, more resistant but more cementitious rock. It must be obvious, therefore, that if cementing value has any meaning whatever, due recognition must also be taken of resistance to pulverization. A cementing value result considered alone has no significance.

The dust formed by the grinding of ballast, or the dust which may accompany ballast in the form of a dust coating on the stone may be harmful to the rolling stock because of increased wear on the journals, and furthermore, it is unpleasant to passenger traffic. And so again the resistance of the ballast

to excessive breaking down and pulverization in service becomes of the utmost importance.

The Testing of Ballast

The recorded history of the testing of rock for railroad ballast is not extensive. Some effort has been made to correlate certain laboratory tests on ballast with their service behavior in the track, both

in this country and abroad. One of the early efforts in this direction was made by railroad director Shubert in Germany from 1887 to 1890.

Director Shubert used a very practical laboratory test in which he subjected a railroad tie, which had been tamped into place on the stone to be tested, to repeated loads of 4 kilograms per square centimeter (571 lb. per sq. in. or 8,200 lb. per sq. ft.) by means of an eccentric. After a stated number of loads, the amount of pulverization was determined by means of screen tests. The ballast was tamped back into place and the test was repeated in this manner a number of times. By this means the amount of dust produced by a number of different kinds of rocks and furnace slags was determined with the following results:

Summary

1. The physical tests practiced on stone for highway construction have been adopted for use in testing ballast.
2. The most extensive attempt to correlate these tests with service behavior indicates that the Dorry Hardness Test and the Cementing Value Test do not accord well with service behavior.
3. A rough indication of the meaning of the test limits in terms of service behavior has been expressed in tabular form which may be useful as a guide in writing specifications for stone ballast.
4. The results of cooperative tests on cementing value have shown the difficulty of reproducing cementing value results in the same laboratory at different times and the even greater difficulty of obtaining check results in different laboratories. These tests have led to the suggestion that the cementing value test as now practiced be eliminated from ballast specifications.
5. Reference is made to the stability tests made by the National Crushed Stone Association Laboratory showing that the highest stability requires the use of angular fragments. The stone ballast tested had over twice the load-carrying capacity of the gravel ballast complying with the A. R. E. A. specifications. These tests indicate stone is a greatly superior ballast from the standpoint of stability.

Kind of Material	Number of Quarts of Dust
Porphyry	1.13
Basalt	1.36
Basalt	1.41
Graywacke	1.47
Carboniferous sandstone	1.62
Quartzite	2.21
Granite	2.39
Diorite	2.60
Slag	2.62
Slag	3.13
Granite	3.65
Screened gravel	4.12
Ordinary furnace slag	4.35

It will be recognized that the above described test approached service behavior very well indeed.

Up to about 1911 the railroads in the United States practiced no uniform methods of test for determining the suitability of stone for ballast. The 1911 report of the Committee on Ballast of the A. R. E. A. reads: "Some of the roads selected their stone for ballast by simply observing the character of the rock and then ascertaining the durability and fitness for ballast by actual results obtained in the track." A special rattler test was practiced by one of the railroads. Some of the roads required a compression test and one railroad required the tests practiced by the U. S. Government on road building materials.

In 1911 the late Logan Waller Page, then director of the U. S. Office of Public Roads, suggested to the Ballast Committee of the A. R. E. A. that the various forms of tests practiced on stone for use in highways were the best available for investigating the physical properties of stone for railroad ballast. That Committee collected a large number of samples of rock from different sections of the country and from different railroads. These rocks were tested under the direction of the writer who was then Engineer of Tests for the Office of Public Roads and the various railroads also submitted reports to the Ballast Committee giving their ideas as to the service value of the rocks represented by the test samples. The details of this investigation have already been published.¹ A description of this series of tests would be too lengthy for repetition here, but as a result of this investigation, it seemed possible to come to certain very rough conclusions regarding the correlation of physical tests with service behavior.

Admittedly, the correlation of the laboratory test results with behavior in the track is not exact because the service behavior was reported by a large number of men and one man's idea of excellent service behavior would undoubtedly appeal to another reporter as being erroneous, and his experience would lead him to report that same rock as having only mediocre resistance in service. Then, too, a rock which might give excellent service because the traffic on the railroad was relatively light might give poor service on still another railroad carrying extremely heavy traffic. With these points in mind, however, the following table is given as a rough approximation of the correlation of the physical tests with service behaviors reported.

¹ See The Physical Testing of Broken Stone Railroad Ballast by A. T. Goldbeck and F. H. Jackson, 1912 Proceedings of the International Association of Testing Materials.

AVERAGE RESULTS OF SERVICE AND LABORATORY TESTS

Results in Track	Average Results in Laboratory					
	Crushing Strength Lbs. per Sq. In.	Dorry Hardness Co-efficient	Toughness	Per Cent Wear Deval Test	Cementing Value No. of Blows	Absorption Lbs. per Cu. Ft.
	(5)	(6)	(6)	(6)	(6)	(5)
Excellent	30450	17.9	27	1.9	75	0.39
	(4)	(3)	(3)	(6)	(6)	(3)
Very Good	27640	17.4	11	3.4	18	0.35
	(29)	(31)	(34)	(33)	(21)	(29)
Good	20510	14.1	8	4.7	41	1.03
	(2)	(4)	(3)	(4)	(4)	(3)
Fair or Poor	23640	16.9	6	4.8	37	1.18

Note: Figures in parentheses indicate number averaged.

Judging from the above results, there is no clear indication of any significance in the Dorry Hardness results or in the cementing value test. The remaining tests seem to follow service results in a more or less logical manner. From them the following table is offered as indicating suggested ranges for the selection of specification limits. It is important to remember that the above results encompass a wide range of materials widely distributed and also a large range in traffic intensity. *Economically the best stone for any particular railroad may not be that which would be given a high rating by the above table. Much more economical service results may be possible with a stone having lesser physical characteristics because of lesser initial cost. Furthermore, the traffic may not require the use of stone of the highest quality. With these precautions in mind the following table may be used as a rough guide in the selection of test limits which, however, should be set only after considering the quality of the rock available for use.*

RANGE IN LABORATORY RESULTS COMPARED WITH PROBABLE RELATIVE SERVICE VALUE

Probable Relative Service Value	Range in Laboratory Results			
	Crushing Strength	Toughness	Per cent Wear Deval	Absorption Lb. per Cu. Ft.
Excellent	25,000+	15+	2.5—	0.5—
	22,000 to 25,000			
Very Good	15,000 to 22,000	9 to 15	4.0 to 2.5	0.75 to 0.5
	10,000 to 15,000			
Good	10,000 to 15,000	6 to 9	5.0 to 4.0	1.25 to 0.75
Fair to Poor		4 to 6	8.0 to 5.0	2.0 to 1.25

No doubt traffic intensity, weather conditions, structure of the rock and other conditions will create exceptions to the above table. It is offered merely

as a rough guide which must be interpreted with caution and with due regard to the previously mentioned influencing factors. Test values within the ranges shown in the above table may not occur concurrently for any given rock.

The preceding tables of results are of interest in connection with the following proposed specifications for stone ballast which were prepared by the Committee on Ballast of the A. R. E. A. and presented before that body for information at their last annual meeting in March, 1936. These specifications, modified if desired, will again be presented before the A. R. E. A. in 1937 for possible adoption by that organization.

Specification for Stone Ballast

GENERAL CHARACTERISTICS

1. Crushed stone for ballast shall be composed of angular fragments, reasonably uniform in quality and having the specified durability and wear resisting qualities. It shall be reasonably clean and free from deleterious substances and shall be of the size specified.

GRADATION IN SIZE

2. The stone, prepared for use as ballast, shall be well-graded within the size limitations designated in the following table for the size or sizes desired, when tested with square opening laboratory sieves:

Nom- inal Size	Approx- imate Size	Amounts Finer than Each Sieve (Square Opening)					
		3"	2½"	2"	1½"	1"	¾"
1-2"	1¼-2½"	---	100	90-100	35-70	0-15	0-5
½-1"	¾-1½"	---	---	---	100	90-100	0-15
¾-1½"	¾-1¾"	---	---	100	90-100	20-55	0-15
¾-2½"	¾-3"	100	90-100	---	25-60	---	0-10

DELETERIOUS SUBSTANCES

3. Broken stone for ballast shall not contain deleterious substances in excess of the following amounts:

Material finer than 200 mesh sieve	1½ per cent
Soft and friable fragments	5 per cent
Clay lumps	0.5 per cent

PHYSICAL REQUIREMENTS

4. (a) Stone ballast shall be considered to have the desired physical requirements when acceptable evidence is available showing that the stone has proved satisfactory in service under conditions essentially the same as those for which it is proposed for use.

(b) Stone ballast failing to meet the requirements in Section 4(a) shall be subjected to the following physical tests for quality and shall meet the following requirements:

QUALITY REQUIREMENTS

Absorption

5. The absorption shall not exceed _____ per cent.

Toughness

6. The toughness shall not be less than _____

Percentage of Wear

7. The percentage of wear shall not exceed _____ per cent.

Soundness

8. Stone ballast failing to meet the requirements given in Section 4(a) shall be subjected to the sodium sulfate soundness test and shall meet the following requirements:

Loss in sodium sulfate test, not more than _____ per cent.¹

FREQUENCY OF TESTING

9. Tests may be made from time to time at the option of the purchaser and especially when new strata are being opened up for crushing into ballast.

SELECTION OF SAMPLES

10. Each stratum or portion of the quarry containing a variation in quality of stone, shall be tested separately and not averaged with any other stratum or portion of the quarry.

AVERAGING OF TEST RESULTS

11. For obtaining the values of physical tests, the average results of the following number of tests for each sample shall be taken:

Kind of Tests	Absorption	Percentage of Wear	Toughness	Soundness
No. of Tests	2	2	(a)	2

(a) Use 6 test cylinders, 3 drilled parallel and 3 at right angles to the bedding plane.

PLACE OF TESTS

12. Such tests as are deemed necessary shall be made at a testing laboratory selected by the purchaser, but visual inspection and other tests shall be made at the place of manufacture prior to shipment as often as considered necessary.

PRODUCTION REQUIREMENTS

Handling

13. Broken stone for ballast shall be loaded directly from the screen or from clean bins or from storage piles provided the stone has not become segregated.

Ballast must be loaded into cars which are in good order and tight enough to prevent leakage and waste of material and which are clean and free from sand, dirt, rubbish, or any other substance which would foul or damage the ballast material.

Cleaning

14. When the rock is of such a nature that it does not become clean without preliminary scrubbing, a scrubbing machine shall be provided at the quarry.

DEFECT FOUND AFTER DELIVERY

15. Carloads of defective material arriving at the site for unloading and not previously inspected shall be rejected

¹ A limit of 15 per cent is commonly specified for concrete aggregates using the present test method; revisions in the test method being discussed will, if adopted, require a modification in specification limits; the Engineer should insert a limit in the specification consistent with local conditions.

and be disposed of at the expense of the producer who will be held liable for all freight charges. If unloaded prior to discovery of defectiveness, payment shall be refused to the manufacturer without return of defective ballast.

INSPECTION

16. Inspectors representing the purchaser shall have free entry to the producing plant at all times while the contract is being executed, and shall have all reasonable facilities afforded them by the producer to satisfy them that the ballast is prepared and loaded in accordance with the specifications and contracts.

In case the inspection develops that the material which has been or is being loaded is not according to specifications, the inspector shall notify the producer to stop further loading and to dispose of all cars under load with defective material.

MEASUREMENT

17. Ballast material may be reckoned in cubic yards or by tons, as expedient. Where ballast material is handled in cars, the yardage may be determined by weight, after ascertaining the weight per cubic yard of the particular stone in question by careful measurement and weighing of not less than five cars filled with the material or the tonnage may be determined for subsequent cars by measurement and converting the yardage into tonnage by the use of the weight per yard as determined above.

METHODS OF TEST

18. All tests shall be carried out in accordance with the following methods:

(a) Sampling the Quarry. Two samples shall be taken from each ledge or different quality of stone used in the preparation of the ballast.

Samples of the finished product for gradation and other required tests shall be taken from each of 200 tons of aggregate delivered unless otherwise ordered by the Engineer. Samples shall weigh not less than 100 lbs.

(b) Sieve Analysis. The sieve analysis shall be made in accordance with the Standard Method of Test for Sieve Analysis of Aggregates for Concrete (A. S. T. M. Designation: C. 41) of the American Society for Testing Materials.

(c) Material Finer than 200 Mesh Sieve. The per cent of dust, dirt, loam, and other fine material shall be determined in accordance with the Tentative Method of Test for Determination of Amount of Material Finer than No. 200 Sieve in Aggregates (A. S. T. M. Designation: C. 117-35T) of the American Society for Testing Materials.

(d) Soft and Friable Particles. The percentage of soft and friable particles shall be determined in accordance with the Standard Method of Test for Quantity of Soft Pebbles in Gravel (Method T-8) of the American Association of State Highway Officials.

(e) Clay Lumps. The percentage of clay lumps shall be determined by examining the various fractions which remain after the sieve analysis. Any particles that can be broken up with the fingers shall be classified as clay lumps and the total percentage of all clay lumps shall be computed on the basis of the total original weight of the sample used in the grading test.

(f) Absorption. The absorption shall be determined by A. S. T. M. Tentative Standard Test for Absorption by Aggregates for Concrete (A. S. T. M. Designation: C. 95-33T).

(g) Toughness. The toughness test shall be made by A. S. T. M. Standard D. 3-18, Test for Toughness of Rock.

(h) Soundness. When the accelerated soundness test is required, it shall be made in accordance with the Tentative Method of Test for Soundness of Coarse Aggregate by Use of Sodium Sulfate or Magnesium Sulfate (A. S. T. M. Designation: C. 89-35T) of the American Society for Testing Materials or subsequent revisions thereto.

(i) Abrasion Test. The abrasion test shall be made by A. S. T. M. Standard Method D. 2-33.

The Cementing Value Test on Stone Ballast

It will be noted that the cementing value requirement has been omitted from the proposed ballast specifications. This omission has resulted from a series of cooperative tests conducted jointly by the Canadian Inspection and Testing Co., Ltd., the Massachusetts Institute of Technology and the National Crushed Stone Association laboratories at the request of the Ballast Committee of the A. R. E. A. The purpose of the tests was to determine, first, if different laboratories could obtain the same results on the same sample and, second, if the test could be reproduced in the same laboratory on different days. In carrying out this investigation the same samples of rock were submitted to the three laboratories above mentioned and the tests were run in accordance with the method prescribed by the A. R. E. A. The average results obtained on the three samples by the various laboratories are as follows:

GRAND AVERAGE CEMENTING VALUES

Sample No.	Type	Lab. No. 1	Lab. No. 2	Lab. No. 3
567	Trap	328	129	336
568	Dolomite	132	484	484
569	Limestone	420	376	653

It is to be noted that widely different values on the same sample of rock were obtained by the different laboratories. The differences in value are so great that no reliance can be placed in the cementing value test as now prescribed in the present A. R. E. A. specification. The values obtained in the same laboratory on different days also showed wide variation; thus indicating the practical impossibility of reproducing the test, even in the same laboratory. The unreliability of the cementing value test led the Ballast Committee to report to the A. R. E. A. that at the next annual meeting it would recommend the elimination of the cementing value test from the specifications.

Stability of Railroad Ballast

Obviously, the stability of railroad ballast is a highly important property, for if the layer of ballast is not stable under moving loads, it is not capable of properly supporting the track without constant maintenance and a discussion of ballast would not be complete without reference to the stability of ballast as it may be influenced by gradation and by the shape of the particles. Rather complete investigations were conducted in the laboratory of the National Crushed Stone Association on this subject.² These investigations involved a number of gradations of crushed stone ballast and also a number of gradations of gravel and crushed gravel ballast complying with the then A. R. E. A. specifications for gravel ballast.

In view of the proposed changes in gradation for stone ballast, it will be pertinent to refer to these previous tests to determine what effect the new gradations may have on the stability of the ballast.

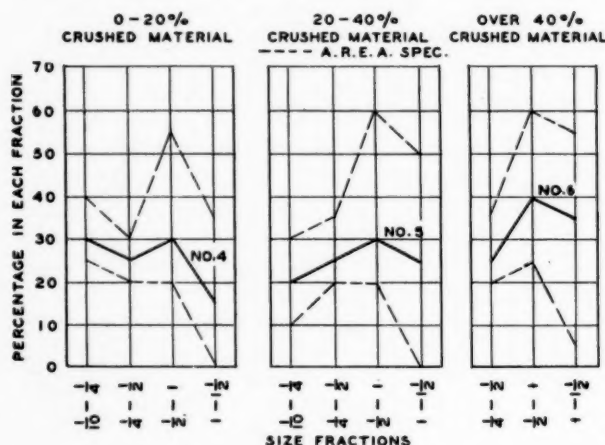


Figure 1

Gradation Curves for Gravel and Crushed Gravel

The stone ballasts tested, had a straight line gradation curve in each case between the maximum and minimum sizes of square opening sieves as follows:

GRADATION OF STONE SAMPLES

Gradation No.	Minimum and Maximum Square Opening Sieves
1	$\frac{3}{4}$ -2 $\frac{1}{2}$
2	$\frac{3}{4}$ -1 $\frac{1}{2}$
3	No. 4- $\frac{3}{4}$
4	No. 4-1 $\frac{1}{2}$
5	No. 4-2 $\frac{1}{2}$

² See November, 1931, issue of *The Crushed Stone Journal*, "Bearing Value Stability Tests on Railroad Ballast," by A. T. Goldbeck.

Stability tests were also made on gravel having the following gradations: Gradations Nos. 1, 2 and 3 were straight line gradations between the maximum and minimum sizes shown in the following table:

GRADATION OF GRAVEL SAMPLES

Gradation No.	Minimum and Maximum Screen Openings (Round)
1	$\frac{3}{4}$ -1 $\frac{1}{2}$
2	No. 4- $\frac{3}{4}$
3	No. 4-1 $\frac{1}{2}$

Gravel samples Nos. 4, 5 and 6 complied with the A. R. E. A. specifications and the gradation curves are shown in Figure 1.

Bearing value tests were made on these respective materials. Each sample was uniformly placed in 3-inch layers in a bin 6 feet square. Each layer was tamped by means of a 9 $\frac{1}{2}$ by 9 $\frac{1}{2}$ -inch tamp weighing 27 pounds. This tamp was raised 12 inches and allowed to fall freely, once in a given spot, and thus the tamping was continued over the entire area of the bin. Eighteen inches of compacted material was placed in the bin in this manner.

To determine the bearing value of this 18-inch layer of material, a 10-inch by 10-inch square bearing block was set on top of the compacted ballast at the center of the bin and upon this was placed a hydraulic jack graduated to 100 lb. increments. The plunger of the jack was marked off in increments of 1/10 of an inch. Loads were applied by slowly pumping the jack by hand and simultaneous readings of load and displacement were taken. This procedure made it possible to plot load-displacement curves such as shown in Figures 2 and 3.

It is recommended that those interested in the stability of ballast review the original article on this subject. Briefly, however, it may be stated that there was very little difference in the stability of the various gradations of crushed stone ballast. No. 2 gravel ballast had the least stability of the various gravels and No. 6 the highest stability.

These tests were very conclusive in proving that crushed fragments are very much more stable when used for ballast than either partially crushed or rounded fragments and that crushed stone ballast, because of its angularity, forms a much more stable ballast layer than either rounded or crushed gravel graded in accordance with the requirements of the A. R. E. A. specifications.

Two of the conclusions from the detailed tests reported on this subject were as follows:

1. The crushed stone composed of angular fragments possesses far greater stability than the gravel composed of rounded fragments.

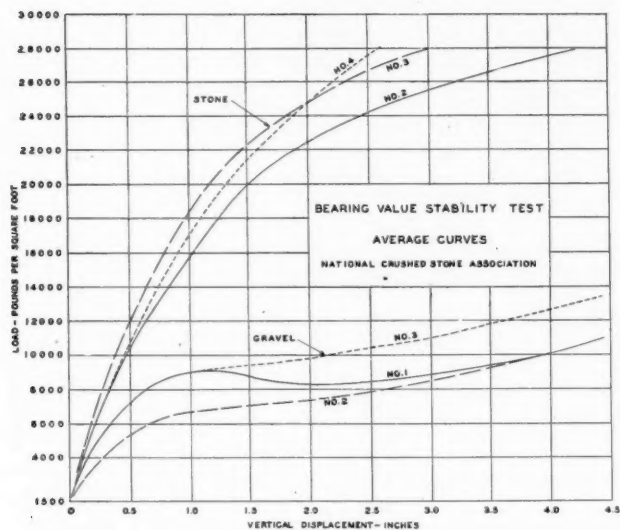


Figure 2

Average Stability Curves for Crushed Stone and Corresponding Gradations of Uncrushed Gravel

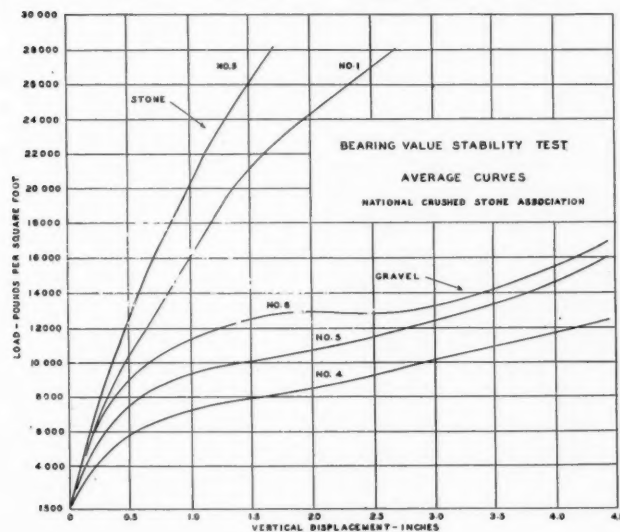


Figure 3

Average Stability Curves for 2½-¾ inch and 2½ inch No. 4 Crushed Stone and Crushed Gravel Complying with A. R. E. A. Specifications

2. The inclusion of crushed fragments in gravel ballast increases its stability over that which

obtains when merely rounded fragments are used. However, the stability, even when 49 per cent of crushed fragments are present, is considerably less than that obtained with crushed stone.

The maximum bearing value of the gravel ballast is something under one-half that of the crushed stone ballast and is reached with very little movement of the bearing block. It is believed that these tests give an excellent idea of the numerical relationship between the stability to be expected from these two respective materials.

In case these conclusions may be misinterpreted, let it be fully understood that gravels have different characteristics just as do crushed stones. Some gravels are more angular and rougher than others and, consequently, some gravels may be more stable than the particular samples tested and some may be even less stable.

Highways Give Indirect Employment

"Present consumption of roundly 18 billions of gallons of gasoline annually," says Director B. H. Markham of the American Petroleum Industries Committee, "will produce more than \$500,000,000 yearly revenue from a three-cent gasoline tax. Since every dollar expended upon highways starts a trade movement which results in the ultimate distribution of \$3.15 in business activity and in wages, \$500,000,000 spent upon roads would distribute \$1,575,000,000 in trade and wages among 24 industries.

Every four men put to work on highways make jobs for seven additional workers in industries whose products are used in highway construction, improvement, and maintenance. Certainly this method of creating employment and distributing wages is preferable to spending endlessly and indiscriminately from gasoline tax funds for other state expenses, especially since it gives those who pay this special additional tax for roads the roads for which they are paying. No other method will accomplish that!"—From *California Highways and Public Works*.

A Public Policy as to Open Price Plans¹

By CHARLES J. BRAND

Vice-President, American Marketing Society
and Executive Secretary and Treasurer,
The National Fertilizer Association

WHEN codes of fair competition under the National Industrial Recovery Act were invalidated by the Supreme Court's decision in the Schechter case on May 27, 1935, business self-government received a severe and perhaps necessary setback. Industry and trade, through their code authorities, were not ready, by and large, to discharge the responsibilities involved in self-government competently and with sufficient devotion to the public interest. They were as yet too inexperienced in the preparation of laws for self-government and their administration.

After a period of exemptions from many of the prohibitions of the antitrust laws, business finds itself, so far as the competitive struggle is concerned, back where it stood in predepression days. Approved codes, that effected a suspension of the antitrust laws, permitted operation of business in certain respects entirely without reference to or effect by legal restrictions hitherto prevailing that many businesses had felt made efficient and fair operation impossible.

The goal of successful business self-government must be erection of standards of business conduct that can be enforced legally, certainly upon those participating in any plan, and to a great extent also against those whose unethical and often illegal conduct contributes so largely to the breakdown of the proper operation of an intelligent and equitable price system. Any instrumentality or device that tends to cause the price system to operate more justly and fairly to producers, distributors, and consumers is charged with a public interest and should be worthy of having elaborated, with respect to it, a public policy. Any open pricing plan that reduces unfair competition and promotes fair exchanges of commodities, giving the purchasing public quality goods at reasonable prices, with reasonable compensation to distributors for their services and only reasonable profits to producers under conditions of efficient operation, is worthy of being perfected under a publicly understood and publicly declared policy.

¹ Reprinted from *The American Marketing Journal*, January, 1936.

◆ Contrary to the opinion prevailing in many quarters, the public interest and that of industry can be mutually and advantageously served by the use of open price plans in industries where such plans are applicable. In the following article, Mr. Brand has made a real contribution towards bringing about a more general recognition of that fact and a careful reading of his discussion should prove very much worth while.

Business self-government that promotes the cause of economic justice should be desired devoutly, both by the government and by the citizen. Anything that helps toward this end, as I believe open pricing does, is in the public interest. It seems certain that no plan of self-government that results in the injury and sometimes crucifixion of the well behaved element of a trade or industry, without suitable safeguards against the destructive work of the unfair and irresponsible, is worth the powder it would take to blow it up.

A Few Comments on Competition

With the foregoing generalities as a back-ground, I want to say a few words about competition. I received the economic pabulum of my youth from Chapin's edition of Francis Wayland's old text book "Elements of Political Economy." Wayland said that competition is the endeavor of two or more persons to gain the same thing at the same time. This simple conception does not seem to fit things as they are today when we look upon competition as the free action (sometime) of individual self-interest (at most all times).

The last issue of *The American Marketing Journal*, the official organ of our Society, contained an article by Louis Bader entitled "Imperfect Competition and Its Implications." It set me to thinking about what perfect competition might be or might have as its end result in the field of commodity exchanges. I half way concluded that under conditions of perfect competition there would be only one price at one time for the same quantity of the same quality of the same commodity in the same market.

To whatever extent ignorance, unintelligent custom, deception, fraud, coercion, oppression, com-

bination, monopolization, forestalling, regulation, charity, and other disturbing causes exist in the market, to that extent the operation of perfect—though not necessarily fair—competition is thwarted. The removal of hindrances, obstacles, or disturbing factors of any kind that prevent fair competition is in the public interest, and any device or instrumentality that contributes to the eradication of imperfect and the restoration or inauguration of more perfect competition deserves the fostering that usually emanates from a friendly, constructive public policy toward it.

Open pricing constitutes such a device in my view. It is not a single definite thing. The procedure or agency so referred to is variously called open pricing, open price filing, open price reporting, open price plan, open price association, open price scheduling, and the like. The only feature common to all of the various designations is that they involve, among other things, the distribution or exchange of price information in some of its infinitely varied forms, or other information that has a bearing on price.

Open Pricing in the Fertilizer Industry

In the public mind open price listing or filing has, in the past, unfortunately, often been considered synonymous with price fixing. Such an impression was quite prevalent at the time industry codes under N.R.A. were in operation, when the opinion that codes which provided for open pricing served to fix prices was widely held. In my appearances before Congressional committees investigating the administration of industrial codes I was impressed by the lack of understanding as to the purpose of price filing, its place in our economic order, and how it can operate in the general public interest.

Open pricing as a current issue may perhaps be of less importance today than it was in the days of the National Recovery Administration. I strongly feel, however, that a price filing plan wisely administered is still desirable in many industries, is in fact an almost indispensable factor in the distribution process of certain industries, and that eventually the desirability of such plans will be quite generally recognized. The subject is of sufficient importance, it seems to me, to justify its consideration by those who are directly concerned with problems of distribution. Consequently, when Mr. Coutant asked me to suggest a topic on which I would be willing to

speak at this convention, I decided that a discussion of price filing—what it is and how it can serve the public interest—in spite of the invalidation of N.R.A. codes would still be timely and should be of some direct value.

Under the fertilizer code our industry adopted an open price scheduling system. The price schedules were not price lists, generally speaking. Price lists conformed to price schedules, but the schedule was the document filed with the Code Authority and supplied to competitors, while price lists based thereon were furnished to agents, dealers, or consumers, as the case might be.

In brief, under proper safeguards, fertilizer producers filed with The National Fertilizer Association, the designated disinterested agency, schedules of their prices, terms, and conditions. These schedules became effective ten days after filing, except schedules filed to meet competition, which became effective at the same date as the schedule to be met, if filed at least 48 hours before the effective date of the competitor's schedule. Sales were required to be at the exact prices and on the exact terms and conditions set forth in these schedules. In other words, a producer could not sell at prices either higher or lower than those set forth in his filed open price schedule. Each producer was absolutely free to name any price and to state any terms or conditions of sale that he chose, but he was not permitted to make sales or offers for sale until he had filed his open price schedule and its effective date had arrived.

During the life of our Code in the neighborhood of 12,000 schedules were filed by between 800 and 900 producers. On May 27 approximately 2,200 effective schedules were on file.

Our industry had four years of severe, and in fact destructive, losses prior to November 10, 1933, when our Code became effective. As nearly 80 per cent of the fertilizer sold in any year moves in the months of January to April, inclusive, we therefore enjoyed practically two complete seasons of operation under our open price filing plan. These two years were years of moderate, but in view of prior losses, satisfying, experience. Our over-all profit probably did not exceed between 6 and 8 per cent, which is very moderate for an industry that can make only one sale a year, generally speaking. When a farmer buys his fertilizer at planting time, he is out of the market for practically twelve months. When 35 per cent of the business is done in a single month, varying either March or April, and 80 per cent of the total

business of the year is done in four months, you may vision the type of problem that confronts us.

At this point it might be well to concede that price filing under the codes was not an unqualified success in every case; in fact I understand there were some dismal failures. In some industries the plan fell down completely. When the Research Division of the present N.R.A., under Dr. L. C. Marshall, which is now engaged in making a study of price filing under the codes, decided to analyze one industry in which open pricing was successful, another in which results were spotty, and a third in which price filing was a failure, it did not experience any difficulty in finding industries of the second and third types.

A failure of any particular plan should not be construed as meaning, however, that the underlying theory of open pricing is wrong and that it is generally unworkable. As you know, many codes were hastily put together and were placed in operation before they could be administered efficiently. Industries which had previously given little thought to price filing put such a provision into their codes, and when it came to administering such a plan together with all the other complex provisions of codes it proved too complicated for staffs which had had no previous experience in industry self-government, or in the administration of public statutes.

In discussing price filing it cannot be emphasized too strongly that it cannot be construed as price fixing in any shape or form. As a matter of fact, if correctly administered, it prevents price fixing. Neither can price filing be regarded as a method of eliminating or evading a competitive price system.

Price filing, or open pricing as I prefer to call it, is, in brief, a method of bringing price competition into the open and is a device whereby producer, distributor, and consumer may act intelligently in making business decisions, particularly as to all matters that involve price. Open pricing does not involve, directly or indirectly, agreement upon price, coercion to file or to observe particular prices, or action in any way inequitable or adverse to the consumer.

Under any plan for open pricing that is wisely conceived and properly administered, the manufacturer is free to set his own price. The individual producer is under no compulsion to sell his goods at the same price as his competitor. He files with a central agency and with his competitors the prices at which he wishes to sell. Thus price competition is brought into the open, with each member of the industry learning directly at what prices his competitors are selling. Without open pricing the manufacturer

would eventually learn from consumers or from other—and frequently unreliable—sources his competitors' prices.

Under a secret price system the purchasing public is apt to be kept ignorant regarding the true facts as to prices, terms, and conditions of sale. There is often lack of price uniformity by a selling company, with the result that different consumers of the same purchasing class pay different prices. It is only natural for an individual to show resentment when he learns that a neighbor has been given a lower price for identical merchandise. In general, all consumers under like conditions should be allowed to purchase the same commodity from the same producer at the same time at the same price. A policy of unfair price discrimination and of secret rebates is bad for business in general and is unfair to the consumer.

Under a properly conducted open pricing plan price changes come to the attention of consumers as soon as they are made, and prices charged by competing manufacturers, being a matter of public record, are also known by the consumers. Under such a system the public is in a much better position to buy intelligently than it is under a secret price system. It is difficult to see how a wisely administered and competently supervised open pricing plan can be other than beneficial to the consuming public.

One of the principal advantages of open pricing is its value as an instrumentality of industry stabilization, a condition to be desired from the standpoint of public interest. In some quarters, unfortunately, stabilization has come to imply unreasonably high prices and unduly large profits. It is perhaps needless to say that I do not use the term with any such connotation, but I refer to industry stabilization as a condition to be desired and a condition essential to economic stability in general. I am referring to a stabilization of industry which is effected by lawful and economic processes and accomplished by industry cooperation.

A secret price system in certain types of industries tends to result in demoralization instead of in stabilization. I think this is particularly true in industries of a highly seasonal nature, in which a large proportion of the year's business is done in a relatively short period, and where the consumer makes a purchase only once a year. Under such conditions the manufacturer is confronted with the necessity of selling his merchandise at once or not at all. He cannot regard vicious price cutting on the part of a competitor as a temporary matter and something

which can be disregarded. His goods must be sold at once, regardless of price levels, discrimination, and rebates. When the final settling price is determined upon he is likely to find that the season has been unprofitable, perhaps disastrous, for him. It is certainly open to question if in the long run the consumer will profit from vicious, cut-throat competition, with its concomitant practices of fraud, misrepresentation, price discrimination, and secret rebates, even if lower prices are obtained for a time.

The conditions which I have just described are those which too often have prevailed in recent years in the industry which I represent. As a result, practically every large company in the industry which is an independent corporation has had to go through reorganization. One large company is just now emerging from the protection of the courts. The financial difficulties experienced by these companies can be traced directly to the evils inherent in a secret price system. Certainly no one can argue that such industry demoralization, resulting in loss to investors and instability for employees, serves any useful purpose and is anything but harmful to our economic system.

Destructive competition, based on misrepresentation, circulation of false reports, suspicion, ignorance of the true facts as to prices, terms, and conditions of sales, oftentimes is the type of competition which results under a secret price system. Under such conditions business is harassed, injustice to the consumers results, and the manufacturers suffer. It is conditions such as those that open pricing is designed to eliminate. When members of an industry have on file with a dependable agency prices, conditions, and terms of sale, fraud and misrepresentation are reduced to a minimum. The competitor and the buyers are in a position to see that the manufacturer abides by his filed prices and terms. Unethical trade practices which are the result of growth over a period of years can be eliminated by the use of open pricing.

Under a system which permits of vicious price cutting, with the consequent pressure on the manufacturer to cut his costs drastically, it is often labor which suffers most. There are many cases on record of wages of a few cents an hour having been paid in various industries in the period prior to the organization of the National Recovery Administration. One method of preventing such a deplorable condition is, of course, the establishment of minimum wages. Another method is to eliminate the features of a price system which tend to result in the sort of

price cutting which inevitably causes wage cutting. In my own industry common labor was paid as little as four and a half cents an hour (although the average was around 14½ cents) at the time when all of the evils of a secret price system were making themselves felt.

The small manufacturer in particular is benefited by an open pricing plan. Generally speaking, without such a plan the large producer, by use of secret rebates, discrimination, gratuities, and other practices of like nature, may be in a position to squeeze his small competitor to the wall. In our industry fortunately this condition has not existed. I am speaking merely of economic tendencies. When competition is brought into the open the small firm is more nearly on a level with its large competitor. I think that it can be stated as fact that the business units which have profited most by open pricing are the small firms. In fact, generally speaking, I would go further and say that some have benefited more than they should have equitably, because of the fact that on the whole many of them have not contributed ratably to general industry progress through research, educational work, and otherwise.

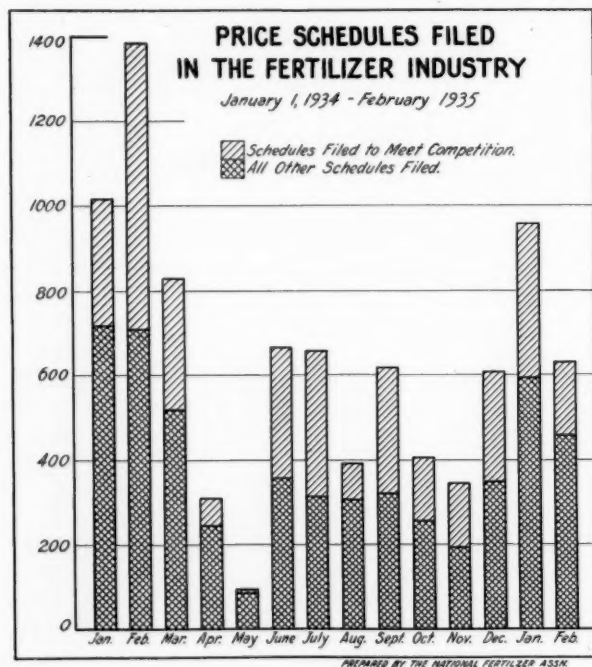
As a measure of the extent to which small companies benefited during codal operation and largely through the open pricing scheduling system, I may say that based on official tax tag figures for the State of Alabama, comparing the gain in sales volumes between 1932-1933 and 1933-1934 seasons, large companies increased their volume of business approximately 7 per cent; intermediate companies nearly 52 per cent; and small companies over 112 per cent. While this illustration is somewhat extreme, a similar situation is disclosed by sales in a number of other States, leaving no doubt as to the facts.

Producers exercised their right to file price schedules without hindrance from any angle. The largest number of schedules filed by any one company in a period of 18 months was 25 schedules. Many filed from 12 to 15, and a few of the small companies filed only a single schedule and adhered to it throughout the period of Code operation.

That open price filing even with a waiting period of ten days does not prevent frequent price changes by manufacturers is shown graphically by the accompanying chart. The extremely seasonal nature of the industry should be kept in mind in examining the chart.

As to the elevation of prices alleged to be due or related to open price filing, it should be said that

between September 15, 1933, and September 15, 1934, the index of fertilizer prices at the farm, according to the Bureau of Agricultural Economics of the United



States Department of Agriculture, rose 6 per cent. In the same period the index number of all commodities bought by the farmer increased 9 per cent, while the index number of prices received for farm products at the farm increased 22 per cent. It would seem a fair inference from these facts that the price filing provisions of the Code did not adversely affect the farmer.

Due to sales below cost and attendant heavy losses, wholesale prices increased 34 per cent, basis average cash price to agents f.o.b. factory, comparing the season of 1934 with 1933. Comparing prices at the farm, based on Bureau of Agricultural Economics index for March in both years, the retail price rose 14.4 per cent, the index rising from 91 to 104. This moderate increase in the price at the farm, compared with the necessarily large increase at wholesale, is attributable to the fact that the producer's price to the consumer was made effective by agency arrangements with those who had previously served as dealers. As dealers they had taken title to the property and sold it at as high prices as could be obtained.

In this paper there is no special call to speak of the help labor received through the operation of our

Code, which included open pricing among its fair trade practice provisions. Without the Code there is practically 100 per cent agreement among members of the industry that there would have been no profits, in fact severe losses. Net earnings made it possible to increase the number of our employees in March, 1934, over March, 1935, by 89 per cent, and our pay rolls by 108 per cent. Some of this increase was due to a seasonal shift and a small part of it was due to increased production. Only through increased earnings could it be financed. These results for labor were achieved without unfairness to the consumer, as already shown.

Summarizing the effects of open price filing or reporting, I believe it (1) occasions desirable stability of the market in the interest of both producer and consumer; (2) protects, if need be, the smaller manufacturer by disclosing to him, as well as his larger competitor, the true state of competition in his operating territory; and (3) removes discrimination as between purchasers, so that, generally speaking, any consumer may purchase a given unit of a particular commodity at a given point, at a price, available and known to all interested parties, arrived at by a more intelligent competition.

In these circumstances, I feel that a public policy as to open price filing should be worked out, in cooperation with the Government, by each industry or trade to which it is appropriate, and that this policy should include, as a minimum, the following features:

1. The exchange of accurate information as to prices, discounts, allowances, terms and conditions of sale, and cognate matters, obviously however not going so far as to disclose confidential data concerning individual enterprises. Stability will eventuate only when all affected parties, producers, distributors, and the purchasing public have equally complete and reliable information as to the market.

2. The clearly defined and clearly understood right of any seller to change prices, terms or conditions at any time whatsoever. In other words, definite assurance that price fixing, whether by combination, conspiracy, intimidation, or pressure, is not involved either directly or indirectly, tacitly or concertedly.

3. The privilege of filing, at the inauguration of any plan, of the then prevailing or a new price list disclosing the prices, terms, and conditions existing at the moment, with the understanding that such list constitutes a continuing report of the sales being made thereunder from time to time.

4. When for competitive or other reasons a sale is, or sales are, made varying from the filed open price list of any participant in such a plan, he (the seller) shall either file a new open price list or a report of change with proper incidental information.

5. The original of any first price list or any subsequently filed price list should be supplied promptly to a confidential, disinterested central agency, preferably the trade association of the industry, and to competitive producers in the particular area involved. Such lists and the price change reports next discussed should disclose prices realized in previous transactions or available to the particular buyer at the moment of sale, not future prices.

6. Price change reports should be filed promptly with a disinterested central agency and/or its areal subdivisions, with the understanding that such agency will summarize appropriately the reports of changes, and supply the summaries promptly to all competitors. The purpose of having this done by a central office is to minimize the work entailed upon each producer, if he were required to serve reports of price changes upon all producers in a given territory, each time he made a price change. Such summarization and distribution of price change reports by the central agency may remove any tendency on the part of any seller to continue a given price status that he might feel if the labor and expense involved were to be borne by him individually.

7. Each industry or trade, in order that proper coordination, uniformity of interpretation, and accuracy of legal supervision may eventuate, should provide a suitable centralized unit to achieve these purposes.

8. A suitable degree of publicity of price information should be provided which would authorize the inspection of price data by the affected purchasing public, either at a central or areal office, or which would insure that there be published periodically accurate data giving the salient facts as to price for the information of the particular public affected, and interested agencies of government.

9. Provisions of any open pricing plan intended to promote observance must not provide for penalties. They may contemplate the assessment of liquidated damages, provided damage occurs, the extent of which is uncertain and difficult of accurate ascertainment, but the damages assessed must be reasonable,

as measured by the injury done, and not a penalty imposed to coerce performance through group pressure.

10. Association officials or employees may not intervene by advice, suggestion, or any other means, to change or thwart the lawful actions or purposes of any member of an industry or trade, who operates under an open pricing plan. Such intervention might quickly result in violation of law and public policy by substituting concerted action for free individual action.

It is my view that an open pricing plan incorporating the foregoing features, and others that may be desired in the interest of the industry or trade, that are not adverse to the public interest, will not constitute price fixing, or a restraint of trade, and will deserve promotion in whatever trade or industry it may be found appropriate.

Certainly open price filing would seem more desirable, from the standpoint of the consumer's interest, than price fixing as is provided in the Guffey Act which governs the bituminous coal industry. Reliance upon the argument that bituminous coal is a natural resource does not seem particularly convincing. So it is, and almost inexhaustible at that.

It is suggested that students of marketing interested in the Supreme Court decisions that bear on open pricing and the doctrines of the Court touching it study critically at least the decisions in the following cases: the American Column and Lumber case (1921); the American Linseed Oil Company case (1923); the Maple Flooring Manufacturers Association case (June 1, 1925); and the Cement Manufacturers Protective Association case (June 1, 1925). These and the Sugar Institute case (March, 1934), decided by Judge Julian Mack in the United States District Court for the Southern District of New York, and now pending on appeal before the United States Supreme Court, supply the best guidance as to what may be done with reasonable certainty that no unreasonable restraint of trade will result.

The ten-point public policy I have outlined above relies primarily on the opinions in the cases mentioned for its legal foundation. Legal and economic developments may make it possible or advisable to revise these objectives from time to time in the interest of stability coupled with fairness to sellers and buyers.

The Effect of the Decision in the Sugar Institute Case Upon Trade Association Activities¹

By WILLIAM J. DONOVAN

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I HAVE been asked to discuss the *Sugar Institute* case recently decided by the United States Supreme Court. This I am glad to do. I am glad to do it because it is a case which has an important bearing on the conduct of industry. Your association is particularly interested in this decision and in its implications. You are confronted every day with the legal difficulties arising from voluntary action and cooperative endeavor to meet practical business problems. It is natural that sometimes you despair of the effectiveness of these methods. You are tempted to abandon self regulation and to turn to Government for aid and assistance. But we have seen the danger of this alternative. The example of Continental countries in surrendering private industry to political control and our own recent experiences in this country with N. R. A. have taught us a lesson. It is this. No people will ever permit industry to determine the amount of goods which are to be produced and the prices at which they are to be sold without at the same time imposing upon industry close supervision and exact regulation.

This is not a new doctrine. Long ago Adam Smith said, "People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public or in some contrivance to raise prices." This is perhaps an unduly cynical attitude toward business cooperation, but it is indicative of a general philosophy of government which opposes the right of business men to set prices by agreement in the absence of governmental regulation.

The choice then is not between the Sherman Act on the one hand and complete self-regulation by industry on the other; the choice which business must make is between self-regulation in accordance with rules that conform to the law and Government regulation of prices and of practices. Those who advocate the repeal of the Sherman Law are inviting

♦ To what extent is open price filing permissible under existing law? The recent decision of the Supreme Court of the United States in the *Sugar Institute Case* deals specifically with this important question and Col. Donovan's comprehensive analysis of the decision should prove particularly helpful to a better understanding of its scope and significance.

Government intervention in business, and the more completely we replace individual freedom by group action the more detailed will be the Governmental control.

The Supreme Court has declared that "the Sherman Act, as a charter of freedom, has a generality and adaptability comparable to that found to be desirable in constitutional provisions"; that it does not prevent "the adoption of reasonable means to protect interstate commerce from destructive or injurious practices" and that "voluntary action to end abuses and to foster fair competitive opportunities" may be undertaken by industry. I propose to examine the decision in the *Sugar* case to see whether, when we apply these principles to a concrete set of facts, we obtain a definite and practical result.

In passing it may be interesting to note that the first case to reach the Supreme Court under the Sherman Act concerned the sugar industry! The case of *United States v. E. C. Knight Co.*, 156 U. S. 1 (1895) established that the Sherman Act was powerless to reach a combination which monopolized the sugar refining business within the State of Pennsylvania. Although the combination had a substantial control of the refining business in the United States, the Court found that it did not directly restrain interstate commerce. For a time it was believed that the decision had destroyed the effectiveness of the Sherman Law, but subsequent cases have so restricted the holding that the *Knight* case is no longer a substantial obstacle to the enforcement of the anti-trust laws.

The *Sugar Institute* case is in marked contrast to the narrow legalistic interpretation which the Su-

¹ Presented before Trade Association Executives in New York City, April 7, 1936.

preme Court adopted in its opinion in the *Knight* case.

But the meaning of the decision in the *Sugar Institute* case cannot properly be understood by a mere recital of the conclusions of the court. Those conclusions are predicated on a factual background which colors and explains the decision itself. This background was presented to the lower court in over 900 exhibits and 10,000 pages of testimony. The opinion itself reflects the difficulties and complexities of the case. It must be read closely and carefully to realize its full import. The condemnation of a particular practice under the circumstances disclosed by the testimony cannot be taken as a final determination that all similar practices are illegal in all cases and in all circumstances.

The Facts

I should first point out that the facts presented to the Court were in dispute. The contention of the Government was upheld, however, as to the facts, and we are bound by that holding.

So considered, the facts and the inferences drawn by the Court from them may be summarized as follows:

The suit was brought to dissolve the Sugar Institute, Inc., a trade association, and to restrain the sugar refining companies which composed it, and the individual defendants, from engaging in an alleged conspiracy in restraint of interstate and foreign commerce in violation of the Sherman Anti Trust Act.

The defendant-members of the Institute refined between 70 and 80% of all of the sugar consumed within the United States. That percentage of control was a factor in determining the extent of the restraint imposed and as showing the public concerned in the problem presented.

So thoroughly has sugar become a standardized product that the sole determining element in the sale of sugar is price. Because it is a standard product, prices had been uniform both before and after the formation of the Institute. The Court significantly observed that: "The fact that, because sugar is a standardized commodity, there is a strong tendency to uniformity of price, makes it the more important that such opportunities as may exist for fair competition should not be impaired."

Prior to the formation of the Sugar Institute, numerous unfair and uneconomic competitive practices had grown up. Certain of the refiners had been accustomed to announce their prices to the trade just

as is done in many other large industries. But there had also developed the practice of departing from openly published prices and to make secret prices and rebates to particular customers. As a result, the actual price structure of the industry was unknown to competitors. Neither buyers nor sellers were able to determine what prices were being paid or obtained by their competitors. Most of these secret concessions and rebates were favorable to the large purchasers. The actual prices charged varied with the extent of pressure which the buyers could exert and the degree of the deception to which they and the refiners were willing to resort. There is no doubt that this condition resulted in serious financial loss both to the refiners and to the buyers of sugar.

The defendants urged that the Institute was formed essentially to abolish secret concessions, eliminate wasteful production, and to supply accurate trade statistics. The Court held, however, that the agreement went beyond what was necessary to accomplish these avowed purposes and that the restraint imposed by the agreement of the Institute and its members was unreasonable. The following activities, among others, were specifically referred to and commented upon.

The Practices Condemned

The opinion in the *Sugar* case emphasizes the so-called "Basic Agreement." That "Basic Agreement" was this: The defendants agreed to sell sugar only upon prices, terms and conditions publicly announced in advance of sale, and to adhere, without deviation, to such prices, terms and conditions until price changes were announced publicly. Now this does not mean that there was a general agreement as to a price to be charged by all members of the Institute. It means that each member of the Institute was free to set his own price, but that once the price was determined by each, there was an agreement which obligated each refiner not to deviate from that price unless and until a new price was posted. It was this agreement not to deviate which the Court, in the light of all the facts, found objectionable. And the decree enjoins "the carrying out of the open price plan so far as it seeks to compel * * * an adherence to prices, terms, etc., announced in advance of sale."

As I read the opinion the emphasis placed upon the "Basic Agreement" does not necessarily indicate that the Institute was enjoined solely because of its open price plan. If the only obligation imposed by

the Sugar Institute had been the requirement that members publicly post prices to be charged to particular classes of customers in particular localities, then it would have been difficult to find any substantial restraint of trade because the only compulsion imposed upon members would have been the obligation to give publicity to prices. The objectionable requirement here was that members should sell *only* upon prices announced in advance of sale. In fact, the very point was made by the defendants that the obligation merely required the seller to give publicity to prices coincident with the sale. The Court did not comment upon this argument, but in enjoining the "Basic Agreement" was careful to indicate that its condemnation extended to the scheme as a whole and not to any particular practice considered as an isolated act. In terms the Court said that it was because of the range and effect of the limitation and the resultant inability to make special arrangements that not only the agreement but the course of action under it were considered unreasonable restraints of trade. Here are the words of the Chief Justice:

" * * * The 'basic agreement' cannot be divorced from the steps taken to make it effective, and the requirements of the Institute must be viewed in the light of the particular opportunities which they cut off or curtailed. The crucial question—whether, in the ostensible effort to prevent unfair competition, the resources of fair competition have been impaired—is presented not abstractly but in connection with various concrete restrictions to which the decree below was addressed."

What were these "concrete restrictions" which the Court emphasized in holding the combination illegal?

(a) The members of the Institute agreed that no quantity discounts should be granted to any purchaser. It was found as a fact that what was prohibited was not only "unsystematic and secret quantity discounts" but also discounts "systematically graded according to quantity." In condemning this practice, the Court pointed out that the sale of sugar in quantities often effected substantial economies and that the agreement precluded the seller from passing these savings on to the purchaser. A decree was approved which enjoined the defendants by concert of action from "preventing, restraining or refusing to grant quantity or other discounts where such discounts reflect, effect, or result in economies to refiners either in direct or indirect cost."

This, of course, does not mean that a single manufacturer must differentiate in price between a purchaser buying a small quantity and a purchaser buy-

ing a large quantity of a given commodity. But it does mean that competitors dominating an industry may not agree to eliminate all differences in price based on quantities purchased, particularly where sales in quantity can be made at a saving in cost.

(b) The Court also condemned the agreement to eliminate long-term contracts. The Court found that the members of the Institute had agreed to make no contracts permitting the buyer to take delivery more than 30 days after date. The Court found that in the sugar industry long term contracts had "a real economic value to refiner and to consumer." There is nothing in the opinion which prevents any manufacturer from adopting any policy which he chooses to follow, but concert of action which imposes arbitrary conditions on any class of purchaser and which "would tend to prevent many entirely fair contracts" is prohibited.

(c) The Court found that the refiners had an agreement under which they refused to deal with any broker, warehouseman or customer who acted both as a broker and as a warehouseman. To enforce this agreement each refiner submitted lists of its brokers and warehousemen. These lists were circulated among the refiners, and brokers who had violated the agreement of the refiners were dropped from the list. The commissions to be paid warehousemen and brokers were also set by agreement. It was found that this practice was carried out in a harsh and arbitrary manner without regard to the effect upon the brokers.

The Court, without qualification, condemned this practice when carried out as the result of an agreement among competitors dominating and controlling an industry. The Court considered it reasonably certain that adequate protection against illicit practices could have been secured by means far less drastic. Here again the decision does not mean that a particular manufacturer acting alone is prevented from selecting his own customers or even from refusing to deal. It does not mean that an individual manufacturer may not impose reasonable restrictions upon any purchaser. But it does mean that this result may not be accomplished by an agreement between competitors, where the dominant motive was "to preserve the uniformity of price structure."

In condemning the agreements eliminating quantity discounts, long-term contracts and the agreements affecting brokers and warehousemen, the Court did not make new law. It merely reaffirmed and applied a principle of law that has long been settled. No doctrine is more firmly established un-

der the Sherman Law than that competitors by agreement may not impose conditions upon those with whom they deal, where, as in the *Sugar* case, those conditions substantially injure those other parties.

As early as 1907 in *Loewe v. Lamlor*, 208 U. S. 274, the Supreme Court expressly pointed out that the Sherman Act "prohibits any combination whatever which essentially * * * restricts * * * the liberty of a trader to engage in business," or a combination "aimed at compelling third parties and strangers involuntarily not to engage in the course of trade except on conditions that the combination imposes * * *".

Applying these principles to the *Sugar* case the Court condemned the agreement not to deal with a broker or warehouseman who acted as both, because the effect of this agreement was to prevent them from engaging in business except upon conditions agreed upon and imposed by the refiners.

The elimination of quantity discounts and long-term contracts was enjoined because the sellers by agreement had imposed arbitrary conditions upon all buyers of sugar. For the same reason, the Court enjoined the elimination of consignment points and ports of entry by agreement of the refiners of sugar.

I should point out that the lower Court made definite and specific provision in the decree enjoining selling on delivered prices or on any system of delivered prices including zone prices or refusing to sell f. o. b. refinery.

The defendants, however, in the higher Court, waived their assignments of error as to this provision as well as to certain other provisions affecting various aspects of transportation. No argument on these questions having been made, the Court accepted the findings below that defendants' action went further than was necessary to prevent secret rebating and amounted to unreasonable restraints, and said that it found "no reason for disturbing the finding on these subjects." While of course the Court did not state its reasons, I assume that they were based upon the same principle it applied to the question of the elimination of quantity discounts.

The opinion must be accepted as determining that in this case at least, the concerted maintenance of a plan of delivered prices was unlawful. I do not believe, however, that until there has been full presentation of the question of delivered prices, we should consider this as the final view of the Court.

Emphasizing the elements which I have pointed out and considering them all as part of a plan the

Court stated that "there is no room for doubt as to the nature and effect of the restrictions" and held the combination illegal.

But there were certain specific practices which the Court approved. Among these were particular methods of the gathering and distribution of statistical information.

Statistical Information

In 1924, the Supreme Court, in the *Maple Flooring* case, 268 U. S. 563, held that the dissemination of information is normally an aid to commerce and that the natural effect of the acquisition of wider and more scientific knowledge of business conditions cannot be said to be an unreasonable restraint of trade. In that case it was held that trade associations might openly and fairly gather and disseminate information as to the cost of their product, the volume of production and the actual price which the product had brought in closed transactions, and that these activities might be conducted pursuant to an agreement.

In the present case the Supreme Court authorizes the use of a statistical service which is much more comprehensive and detailed than that considered in the *Maple Flooring* opinion. The decree not only permits members of the Institute to give immediate publicity as to prices and terms of sale in all closed transactions, but it also expressly authorizes the association to make advance announcements as to future prices and terms of sale. The Court authorized the distribution of such information, since "it does not appear that arrangements merely to circulate or relay such announcements threaten competitive opportunities." The Court pointed out that the vice in the Sugar Institute agreement did not lie in the announcement of past, current and future prices, for "the unreasonable restraint * * * lay not in advance announcements, but in the steps taken to secure adherence without deviation from prices and terms thus announced."

From these quotations, it is clear that a trade association may now distribute current price information where such distribution is for the purpose of advising competitors and others of market conditions and is not used for the purpose of concertedly fixing or raising prices or curtailing the production of a commodity in commerce.

The opinion of the Supreme Court inferentially points out that an association may collect and disseminate price information relating to particular sales. In holding that the agreement of the Sugar

Institute went further than was necessary to correct the evils at which it was said to be aimed, the Court significantly pointed out that "if immediate publicity had been given to prices and terms in all 'closed transactions' competitive pressure would have been so great that the refiners would either have had to abandon the discriminatory practices or extend them to all." Now, this statement is meaningless unless it implies the disclosure of the details of particular past sales. Obviously neither a buyer nor a seller can determine whether a competitor has given a discriminatory price unless he knows the amount of the product which such competitor has sold, the location of the buyer, the quality of the goods purchased, and other essential facts. If, as the Court suggests, competitive pressure would eliminate unfair discrimination, the Court must necessarily have had in mind the distribution of statistical information with sufficient particularity to identify the locality of the buyer, the date and the amount of the purchase, and other factors which may justify a seller in giving one purchaser a lower price than another. The implied authorization of the publication of such detailed facts is a material contribution to the law governing the conduct of trade associations. If I am correct in my analysis of the opinion, then industry may employ the effective weapon of publicity in dealing with unfair rebates and discriminations.

In the *Sugar* case, however, the Court has pointed to one very important criterion governing the publication of statistics by a trade association, and that is that if statistics are to be published or to be made available they must be published or made available in such a way that both sellers and purchasers will have the same essential information. In the *Sugar* case it was found that the purchasers had available to them a part but not all of such information being made available to the sellers and that the result of this was not only to give the sellers an unfair advantage with respect to purchasers but was "even likely to mislead" them.

AGREEMENTS TO ELIMINATE UNFAIR TRADE PRACTICES OR OTHER EVILS.

The opinion of the Court has been criticized as making it impossible for industries voluntarily to correct unfair trade practices and other evils which they face. I do not believe that this is the true meaning of the opinion. I have no doubt that an agreement to eliminate a practice that is unfair within the meaning of established law would not be questioned if limited to the accomplishment of that one purpose.

The opinion in the *Sugar* case sustains that view. It specifically affirms the doctrine laid down in the *Appalachian Coals* case, 288 U. S. 344. In that case the Court upheld an agreement among competitors, who produced approximately 73% of all coal produced in the "Southern Appalachian Coal Field," to market their product exclusively through a common sales agency. It appeared, however, that the agency would not be in a position to dominate or control any market in which coal was sold. It was admitted that the agreement tended to stabilize prices but this effect upon the price structure was justified because the agreement was intended to correct, and, in fact, did not go beyond attempting to correct, the deplorable competitive conditions existing in the sale of coal. In referring to the *Appalachian Coal* case, the Court again lays down the principle which defines similar agreements which may be entered into under the law:

"Nor does the fact that the correction of abuses may tend to stabilize a business, or to produce fairer price levels, require that abuses should go uncorrected or that an effort to correct them should for that reason alone be stamped as an unreasonable restraint of trade. Accordingly we have held that a cooperative enterprise otherwise free from objection, which carries with it no monopolistic menace, is not to be condemned as an undue restraint merely because it may effect a change in market conditions where the change would be in mitigation of recognized evils and would not impair, but rather foster, fair competitive opportunities * * *."

Unlike the *Appalachian Coals* case, it was conceded by the Institute that the evils which faced the sugar industry could have been corrected without obliging the members to adhere without deviation to the future prices and terms of sale which they had filed. It would seem then that the agreement in the *Sugar* case went further than was necessary in order to correct the evils at which it was aimed. The combination in the *Sugar* case was condemned not because it eliminated competitive evils and unfair practices, but because it unnecessarily imposed arbitrary and onerous conditions upon sellers and buyers and others; and furthermore, to paraphrase the language of the Court, because the activities of the Institute although ostensibly for the purpose of preventing unfair competition had in actuality the effect of impairing fair competition.

Let me summarize the practical effect of this decision in the *Sugar* case:

(1) Competitors in an industry are forbidden by agreement to impose conditions which substantially

and adversely affect the normal freedom of buyer and seller to jointly determine price or other conditions of sale in specific transactions. The condemnation of an agreement to eliminate quantity discounts illustrates this doctrine.

(2) Within the limitations of this principle competitors may, however, agree to eliminate unfair trade practices. By unfair trade practices I mean those practices which have been held to be illegal under existing decisions. And even in such cases the agreement will be sustained only if it is confined in its operation and effect to the elimination of the illegal practices. An agreement by competitors to abandon false and misleading advertising is typical of the class of agreements which a court will uphold. Such an agreement is effective because it crystallizes for the group the application of the law to their specific problems.

(3) Where depressed economic conditions or unsound business practices threaten its life, industry need not sit idly by, but by agreement may attempt to alleviate those conditions. This is what I have called the doctrine of economic self defense. Whether or not such an agreement unreasonably restrains trade will, of course, depend upon the particular facts surrounding each agreement. It is certain, however, that an agreement to correct industrial evils will not be condemned by the Court merely because it tends to affect production or to stabilize prices. But, of course, industry under the guise of correcting evils may not restrain trade. The *Appalachian Coal* case, to which I have referred, shows what industry may do under such agreements.

(4) *Open price plan*: A properly devised and operated open price plan is not illegal. This is one of the most significant holdings of the court in the *Sugar* case.

The purpose of an open price plan is to substitute frank and open dealing for secret and discriminatory treatment. An open price plan merely extends to industry the same theory of an openly announced one-price policy which has long prevailed in retail trade.

Members of an association may properly exchange information concerning prices, whether past, present, or future—so long as no one of the members is restricted, by agreement or otherwise, from changing his price at any time. More particularly, the *Sugar* case says that each member of an industry must be free at any time to deviate from any of the prices, terms, and conditions of sale which he has openly announced.

While competitors may openly file their prices, it of course goes without saying that there may be no concerted activity in setting the price which is to be filed.

Furthermore, it is not only the selling price which may be openly announced, for this is meaningless unless we know all of the surrounding conditions of this price. And so competitors may file prices, discounts, allowances, and all other terms and conditions of sale. In fact, these items would seem to be a necessary part of any open price plan because price has meaning only as we are able to answer the questions, "Price of what?" and "Price under what conditions?"

Those who file false information must be made to realize that they run the risk of legal penalties for selling on the basis of misrepresentation or at discriminatory prices.

(5) *Contracts*: There is another specific activity of trade associations which is clarified by the *Sugar* case. The Supreme Court has denied that there should be a penalty upon intelligence; in fact, the Court has urged that accurate knowledge of competitive conditions is often necessary if competition is to be free and fair.

It is now clear that members of a trade association are free to compile and disseminate information about competitive conditions so long as they make it reasonably available to others who have a right to have the same information. However, the Court recognizes that there may be certain information of interest only to the members of a group which they may compile in a confidential manner without obligation of wide publication. The facts in each individual case will determine whether the information may be held confidential or whether it must be made public.

If information may be exchanged for the purpose of checking fraud, then it seems to me that one thing that can be done is for members of a trade association to report all of their contracts and to permit the trade association to circulate detailed information about these contracts. I say this because mere summaries of production and sales would have a limited value. If fraud and discrimination are to be discovered and checked, it may be necessary—and, in my opinion, it is permissible—for the members of groups publicly to reveal all of the essential details concerning any closed transaction. This procedure would provide the most practical means of guaranteeing that all buyers who are similarly situated will be treated with equal fairness.

NEED FOR CHANGE IN ADMINISTRATION OF ANTI-TRUST LAWS.

Part of the defense in the *Sugar* case was that of good faith. As proof of good faith, the defendants set forth their transactions with the Department of Justice at the time they set up their Institute. It happened that I was in the Department at that time and talked with the attorneys representing this Institute, although the Court found that the Department "was not notified of various important steps taken by the Institute in connection with the illegal restraints" nor "as to those activities charged by the Government and denied by defendants in this case." My talking with them however was in conformity with a policy I had there established of consulting with industry regarding any plans or projects they had for regulation and control.

You will recall that it was the purpose of the Federal Trade Commission Act to attempt to prevent monopoly and restraint of trade by stopping at the inception unfair methods of competition which, if unchecked, would result in a violation of the anti-trust laws. In administering the anti-trust laws I sought to apply a similar policy. This policy was based upon my conviction that in these days it is impossible to unscramble illegal combinations without injury to a large number of innocent persons and that it was my duty to assist in preventing violation of law. I was also convinced that the great majority of business men wanted to abide by the law and that cooperation by government would help them to do this.

My practice of sitting down with business men to discuss their plans was not inconsistent with a vigorous and impartial enforcement of the law. The record shows that under this policy of administration there was at least as great activity in prosecution as in the so called "trust busting" period. Vigorous enforcement of the law went hand in hand with sincere efforts to help business men to discover and to avoid the legal hazards.

This policy of prevention was criticized at the time. It was said that the only way to meet industry was in the courtroom. I did not agree with this theory then, and I do not agree with it now. It seems to me that government, in dealing with industry, should not treat industry as if it were made up of a group of narcotic peddlers, but that cooperation should work both ways. One great criticism made of this advice in advance policy was that industry would

take advantage of it and would take as blanket authority the informal advice given by a Government official. If that be true, then the result in this case shows what I had always contended was true, and that is that in such an instance government always has its remedy. Such a policy as I tried to follow was an administrative one: it inevitably changes with each change in administration. To that extent this procedure is unsatisfactory. The experience of the *Sugar* Institute points up again the recommendation that I made when I was in office, and that I have made on more than one occasion since:

Some of you may be familiar with that proposal but let me summarize it: The Federal Trade Commission should be changed from a body having the combined powers and duties of an investigator, prosecutor and judge, into a body advisory and quasi-judicial. As a result of the *Humphrey* case the Supreme Court established that the Commission is independent of executive authority and "free to exercise its judgment without the leave or hindrance of any other official or any department of the government."

Potentially then as an independent body and by reason of the power granted by Congress the Federal Trade Commission is equipped to prevent unfair methods of competition in interstate commerce. I say potentially because it seems to me the Commission has never developed its full possibilities, nor on the other hand has business ever attempted to make full use of the powers of the Commission for the cleansing of industrial abuses. But today the Commission has a new power, as well as a new sanction to pass judgment upon unfair methods of competition.

The Attorney General alone should have the authority to institute proceedings to prevent and restrain violations of the Sherman Law. Except in criminal cases, which should be presented to the District Courts, all proceedings instituted by the Attorney General should be brought before the Federal Trade Commission. Unfair competition cases could be instituted before it not only by the Attorney General but by private litigants. The important thing is that the Commission should not institute or prosecute cases before itself as it does today. From its decisions review should be taken to a specially-constituted court equipped to pass on economic problems. The determination of that appellate court should be final except as to the Constitutional questions.

Parties entering into agreements affecting interstate commerce should be given the right to submit their proposed plan to this Commission, and in such cases the Commission should be authorized and directed to give advisory opinions, when, after a hearing at which the Attorney General should appear on behalf of the Government, the Commission finds that the giving of such opinions would be in the public interest. In other words, the Commission should not only be authorized to give declaratory judgments, but they should be required to give advisory opinions and to state the reason for those opinions. It should be further provided that any finding made by the Commission relative to such advisory opinions constitutes *prima facie* evidence in any subsequent civil proceeding involving the same facts, and in the absence of fraud or misrepresentation should be preventive of criminal prosecution.

Had such an instrumentality been in existence, the costly and expensive litigation such as took place in the present case would not have arisen. The doctrine of the Court laid down in the *Appalachian* case could have been applied by the Commission and limited or extended as the facts warranted. As I have said this case again illustrates the need of such a body as is here proposed.

* * * * *

Some may think that the opinion in this case is a recession from the position taken by the Court in the *Appalachian* case and that it is a limitation upon the more liberal doctrine there pronounced. I do not think so. In point of fact, the present decision serves to bring out and make clear the distinction that must exist between concerted action which confines itself to the correction of economic abuses and unfair competition, and concerted action which reaches further to restrain the normal processes of effective competition.

I should say that the most significant feature of the decision in the *Sugar Institute* case is the encouragement it holds out to organized business to solve its problems by voluntary efforts. The vehicle of organized business is the trade association. Whether industry will accept this opportunity to govern itself in the public interest rests to a very large degree with the members of this new profession of trade association executives.

National Silicosis Conference Committee is Established

IN response to an invitation from Frances Perkins, Secretary of Labor, approximately two hundred representatives of all of the important groups interested either directly or indirectly in the silicosis problem gathered in the Department of Labor, Washington, D. C., on April 14, to give further consideration to the development of plans for a national conference to be held in Washington later in the year. The enthusiastic response to the Secretary's invitation and the intense interest manifested by those present clearly indicate a strong desire to pool information in a constructive effort towards a solution of the problem.

The group which assembled in Washington was designated as the National Silicosis Conference Committee. Preliminary to the holding of a national conference it was deemed advisable to establish a number of subcommittees of the National Conference Committee, each of which would deal with a specific phase of the silicosis problem. Accordingly the following four general committees were designated: (1) Committee on the Prevention of Silicosis through Medical Control; (2) Committee on the Prevention of Silicosis through Engineering Control; (3) Committee on the Economic, Legal, and Insurance Phases of the Silicosis Problem; (4) Committee on Regulatory and Administrative Phases of the Silicosis Problem.

A definite program of activities has been assigned to each of these subcommittees which, it is understood, can be added to as circumstances may require. Following are the subjects which will be considered by each of these committees:

1. Committee on the Prevention of Silicosis through Medical Control.

Program of Activities:

1. Historical Data: When silicosis was first reported; the occupations in which it has been reported to occur; its distribution.
2. Etiology: Exciting factor; contributory and predisposing factors.
3. Silicosis and Tuberculosis. Their relationship; importance to industry and the individual; importance from a public health viewpoint.
4. Permissible Limits of Dust Concentration: Physiological response to varying concentra-

tions of silica; comparative harmful effects of exposure to various combinations of inorganic dusts (mixed dusts).

5. The Basis of Diagnosis: Specific requirements relative to occupational and medical history, clinical, roentgenological, laboratory and pathological manifestations.
2. Committee on the Prevention of Silicosis through Engineering Control.

Program of Activities:

1. Housekeeping: Its relation to other preventive measures.
2. Plant Design: Layout; isolation of processes.
3. General Ventilation of Work Places: Methods; efficacy.
4. Enclosed Processes: Their general application to operations when practical and effective.
5. Wet Methods: Practicability and effectiveness.
6. Local Exhaust: Its application to specific industrial operations; design; efficiency.
7. Personal Respiratory Protective Devices: Their uses and limitations.
8. Atmospheric Dust Concentrations: Standards for estimating; value as a measure of effectiveness of control methods.
9. Management's and Employees' Responsibility: Maintenance of control equipment; inspection; repair and use.

3. Committee on Economic, Legal, and Insurance Phases of the Silicosis Problem.

Program of Activities:

1. Extent of Hazard: Industries affected; estimate of the number of workers exposed to the hazard.
2. Compensation Phases:
 - a. Summary of the present laws affording compensation for silicosis; analysis as to form; advantages and disadvantages.
 - b. Compensation and its tendency to deprive industry of experienced employees and workers of an opportunity of employment.

c. Basis for compensation.

- d. Accrued liability problem—suggested methods of solution.
- e. Premium rates—comparison under different forms of compensation laws and administration.
- f. Benefits—forms, substance, and application.
- g. State funds—types; advantages and disadvantages.
3. Financial losses due to Silicosis: Affecting labor, employer, and the public.
4. Litigation Problems (Racketeering).

4. Committee on Regulatory and Administrative Phases of the Silicosis Problem.

Program of Activities:

1. Responsibility of State departments of labor in the adoption of regulatory measures relative to standards for inspection enforcement.
2. Responsibility of State health departments in research, reporting, and educational program.
3. Collaboration of State agencies responsible for health of workers:
 - a. Between agencies within the State—health and labor.
 - b. Between various State labor departments.
 - c. Between various State health departments.
4. Industrial Hygiene Units: Responsibility as a State agency; outlining program in relation to silicosis control.
5. Workmen's Compensation: Administrative problems; administration of State funds; medical boards; rate-fixing agencies and their problems.
6. Rehabilitation and Medical Care.

It is contemplated that each of these committees will consider and report to the National Silicosis Conference Committee on the activities assigned for their consideration. On the basis of information developed from a study of these various committee reports, plans will be completed for holding a national conference on silicosis in the early Fall.

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